

**What is claimed is:**

1. A chemically modified oligonucleotide having no more than about 27 nucleic acid base units, said oligonucleotide having the sequence  $(N_xG_{3-4})_QN_x$  wherein X is 1 to 8 and Q is 1 to 6, wherein said oligonucleotide modulates mammalian telomere length.

2. The oligonucleotide of claim 1 which has at least one phosphorothioate linkage.

3. The oligonucleotide of claim 1 which has at least one 2' modification of the sugar.

4. The oligonucleotide of claim 1 which is a chimeric oligonucleotide.

5. A method of modulating telomere length of a mammalian chromosome comprising contacting a mammalian chromosome with a chemically modified oligonucleotide having no more than about 27 nucleic acid base units, said oligonucleotide having the sequence  $(N_xG_{3-4})_QN_x$  wherein X is 1 to 8 and Q is 1 to 6, wherein said oligonucleotide modulates mammalian telomere length.

6. The method of claim 5 which is carried out *in vitro*.

7. The method of claim 5 which is carried out *in vivo*.

8. A method for inhibiting the division of a malignant mammalian cell comprising contacting said malignant mammalian cell with a chemically modified oligonucleotide having no more than about 27 nucleic acid base units, said oligonucleotide having the sequence  $(N_xG_{3-4})_QN_x$  wherein X is 1 to 8 and Q is 1 to 6, wherein said oligonucleotide modulates mammalian telomere length.

9. The method of claim 8 which is carried out *in vitro*.

10. The method of claim 8 which is carried out *in vivo*.

11. A method for modulating the effects of aging of a mammalian cell comprising contacting said mammalian cell with a chemically modified oligonucleotide having no more than about 27 nucleic acid base units, said oligonucleotide having the sequence  $(N_X G_{3-4})_Q N_X$  wherein X is 1 to 8 and Q is 1 to 6, wherein said oligonucleotide modulates mammalian telomere length.

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12. The method of claim 11 which is carried out *in vitro*.

13. The method of claim 11 which is carried out *in vivo*.

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